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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,012	02/17/2004	Michael Fred Hoge	132494	9563

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EXAMINER

GABOR, OTILIA

ART UNIT	PAPER NUMBER
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2884

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/780,012

Applicant(s)

HOGE, MICHAEL FRED

Examiner

Otilia Gabor

Art Unit

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004 and 28 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 11-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Response to Amendment

1. The amendment filed 03/28/2006 has been entered.

Claim Rejections - 35 USC § 112

2. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The newly introduced limitation that the alignment tool is removed from the assembly once the replacement module has been attached within the assembly constitutes NEW MATTER because this feature was not disclosed in the original specification. The specification merely states that the alignment tool 230 includes a body 232 having at least two alignment protrusions 234 or datums 234 extending therefrom and a longitudinal channel 236 sized to receive flexible member 200 (see paragraph 0039) and that the alignment tool facilitates the easy replacement of a module in a detector array if a module needs replacing, where the tool is used to position the replacement module in the assembly (see paragraph 0042) Nowhere does the specification disclose that this alignment tool is not part of the detector assembly and that it is removed from the assembly once the replacement module has been attached. Therefore, the newly introduced limitation in the claim constitutes NEW MATTER.

NOTE: for examination purposes the Examiner considers this limitation to not have patentable weight.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 11 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Orava et al. (U. S. Patent 6,163,028).

Orava discloses a method to replace a detector module in a modular detector assembly, the method comprising: removing a module to be replaced from the assembly and providing a replacement module comprising at least one alignment datum and using an alignment tool comprising a body (4) with at least two alignment datums (5a) extending thereon to position the replacement module in the assembly with respect to the existing module (see figures and corresponding description).

5. Claims 1-5, 7, 8, 11, 13-15, 17-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Dobbs et al. (U. S. Patent 5,487,098).

Dobbs discloses a detector assembly for imaging, and method of making the assembly, the assembly comprising: a flexible member (28) comprising a first side and a second side; a first scintillator array (scintillators in detector 92 in detector module 24) positioned on the first side of the member (28); a first collimator array (collimators 22 in

collimator module 26); and a plurality of diode assemblies (photodiodes in detector 92 in detector module 24). Dobbs discloses a plurality of detector modules (24) positioned on one side of the flexible member (28), where each of the detector modules (24) comprises a plurality of detectors (92), each detector formed of a scintillator coupled to a photodiode. On the other side of the flexible member (28) there is a plurality of collimator modules (26) where each module comprises a plurality of collimators (22). Thus, because each detector module comprises an array of scintillators and photodiodes and each collimator module comprises an array of collimators, it follows that the flexible member (28) comprises on one side a first and second array of scintillators and photodiodes (for at least two modules) and on the second side a first and second array of collimators (for at least two collimator modules). Dobbs also discloses that each of the detector modules and collimator modules contain at least two pins that are alignment datums whereby the collimators, the scintillators and the photodiodes are aligned one to the other and on the member (28) (see Col.7, line 14-Col.8, line 52 and Figs. 1-6). Dobbs discloses that having detector and collimator modules with alignment datums assures that each of the modules can be aligned properly and replaced with another modules without having difficulties in aligning the new module with the other modules in the array. The optical coupling between the scintillator, photodiode and collimators are through the alignment system, namely the alignment datums assure that there is optical coupling between these elements. Dobbs discloses that the imaging system is made by aligning each individual collimator modules with the respective detector module that comprises the scintillators and

photodiodes on the flexible member (28) with the help of flexible members (30). Dobbs discloses the imaging system as containing the above detection system as well as a radiation source and a computer that is operationally coupled to the source (see fig.1). The member (28) in the imaging system in Dobbs is bent into an arc and then positioned to receive radiation from a radiation source (12). Also, since each of the modules have their own individual alignment datums, when positioned next to each other, the datums will be separated by a certain distance (D) from each other.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6, 12, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbs.

Regarding claims 6 and 16 Dobbs fails to disclose that the flexible member (28) comprises graphite, however it would have been obvious to one having ordinary skill in the art to have the member include graphite since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use (*In re Leshin*, 125 USPQ 416).

Regarding claim 12 Dobbs fails to disclose a plurality of N detector modules on a

first member and a plurality of M detectors on a second member, where the detector assemblies are different in size and where M is different than N, however, it would have been obvious to have the detector modules in Dobbs have different number of detectors and therefore one module have M detector and a second module have N detectors, for there is no limitation in Dobbs that the module have to have the same number of detectors.

Response to Arguments

8. Applicant's arguments filed 03/28/2006 have been fully considered but they are not persuasive. Regarding claim 1 the Applicant argues that reference Dobbs does not disclose the claimed steps of "positioning" the scintillator array and the collimator on the first and second side of the flexible member. This argument is not persuasive, however, because by disclosing that the scintillator array and the collimator are "mounted" on the first and second side of the spine Dobbs inherently discloses that the scintillator and the collimator are "positioned" on the first and second sides of the member. The scintillator array and the collimator array are not fabricated integral to the spine, but instead they are mounted on the spine. Thus, just because Dobbs does not specifically disclose that the scintillator array and the collimator are "positioned" on the member, unless his scintillator array and collimator come prefabricated as integral parts of the spine, these elements "need" to be positioned on the spine (otherwise they get there by magic). Regarding claims 1 and 13 the Applicant argues that Dobbs does not disclose a "flexible" spine member. This argument, however, is not persuasive because

interpreting the "flexible" definition in the claims in correspondence with the disclosure of the invention, the only requirement for the member to qualify as "flexible" is that it could be bent into an arc. As such, since Dobbs discloses a spine in the shape of an arc, it inherently qualifies as being "flexible." Regarding claim 7 the Applicant argues that Dobbs does not disclose the step of aligning the diode assembly and the scintillator package and the collimator with an aligning tool that does not form part of the detector array. This argument, however, is not persuasive because Dobbs in fact discloses an aligning tool (30) that is NOT a component of the detector array (the detector array being defined as the diodes, scintillator and collimator assembly), but in fact is a part of the detection system (see Fig.1). Regarding claim 11 the Applicant argues that Orava and Dobbs fail to disclose the step of removing an alignment tool once the replacement module has been attached within the assembly. This argument, however, is not persuasive because 1) this limitation has not been given patentable weight due to it containing NEW MATTER (see above), and 2) the alignment tool of Dobbs is not part of the modular detector assembly, but instead is part of the detector system. Regarding claims 17 and 20 the Applicant argues that Dobbs fails to disclose that the scintillator and diode is on a first side of the flexible spine and the collimator is on the second side of the spine. This argument is not persuasive however, for the reasons as disclosed in detail in the above recited rejection. Regarding claims 6, 12, 16 the Applicant argues that the rejection is not proper because there is no citation to any reference supporting the combinations made in the rejection. This argument is not persuasive, however, because as clearly disclosed in the above recited rejection, the claims are unpatentable

over Dobbs (thus a reference is cited) in view of the general skill of a worker in the art, which combination is a proper one. In fact *In re Leshin* was cited to show that choosing a known material on the basis of its suitability is within the skill of one working in this field. As such, the claims still stand rejected as shown in detail above.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 571-272-2435. The examiner can normally be reached on Monday-Friday between 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2884

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Otilia Gabor
Primary Examiner
Art Unit 2884



OTILIA GABOR
PRIMARY EXAMINER